

Contents

SPIDER RECORDING SCHEME	
History and objectives	1
Newsletter	2
The provisional atlas	2
Maps and distribution patterns	2
Male/female phenology data	3
Where from here?	4
Adult season data on the basis of latitude and longitude	4
Spiders and management for invertebrates	4
Patterns of change	4
SPIDER RECORDING SCHEME PHASE 2	
The qualifications needed to become a Recorder in the SRS	5
Other factors that have to be considered	5
Area Organisers	7
Special sites	8
Historical records	8
How should I send my records in?	8
The new RA65 card v.2	9
Printing	9
Do I need to send in absolutely all my records?	9
Difficult species	10
Identification service	10
Misidentifications	10
What do I do if I think my records might already have been submitted?	10
What happens to my records?	10
How does the SRS inter-relate with Local Records Centres and County Recorders?	10
Policy on use of records and access to records	10
Submission of records	11
The checklist	11
GPS Grid references	11
What grid references should I give?	12
Vice-counties	12
SUBMISSION OF COMPUTER RECORDS	12
General comments	13
Validation	13
File format	13
The fields	14
Explanation of terms used	17
SPIDER RECORD CARDS	18
SPIDER RECORD CARD - RA65 v.2	18
Categories	18
SPIDER RECORD CARD - GEN14	21
SPIDER RECORD CARD - GEN13	21
References	21
Index	22
Contacts	23

SPIDER RECORDING SCHEME

Spiders are a fascinating group of invertebrates, which have only started to receive the attention they deserve during the past 50 years. The publication of *British Spiders* (Locket & Millidge 1951, 1953; Locket, Millidge & Merrett 1974), the formation of the Flatford Mill Spider Group and The British Spider Study Group and the subsequent development of the British Arachnological Society provided the first firm basis for the study of arachnology in the last half of the twentieth century. The publication of a photographic field guide by Dick Jones (Jones 1983) and then the massively important modern identification work by Mike Roberts (Roberts, 1985, 1987) provided budding arachnologists with the tools to reliably identify most species of spider to be found in Britain. Dr Peter Merrett initiated the mapping of the distribution of British spiders on an administrative county basis in Locket, Millidge & Merrett (1974) and has periodically published New County Record updates in the British Arachnological Society bulletin, but it was the formation of the Spider Recording Scheme in 1987 and the remarkable enthusiasm and energy of the late Clifford Smith that has been instrumental in encouraging the active support of arachnologists and increasing the numbers of recorders.

History and objectives

The British Arachnological Society collaborated with the Biological Records Centre to develop a revised Spider Recording Scheme which was launched in April 1987, at the time of the Annual General Meeting of the British Arachnological Society. This replaced a scheme that was started in 1964 but which had fallen into abeyance.

The British Arachnological Society and the Biological Records Centre, based at the Centre for Ecology & Hydrology, Monks Wood, jointly administer the scheme. Membership of the British Arachnological Society is not essential for a recorder in the scheme, but is strongly recommended.

There is a National Organiser who is supported by a subcommittee of the British Arachnological Society and a number of Area Organisers, each of whom is responsible for one or more vice-counties. Records from an area covered by an Area Organiser are sent to him/her on a Spider Record Card (RA65) or if possible, in computerised format. After checking, cards are forwarded to the National Organiser and computerised data to Stan Dobson. A committee of experienced arachnologists in the British Arachnological Society decide whether further verification is required, and then these records are added to the national dataset, and periodically forwarded to the Biological Records Centre. For any area not covered by the network of Area Organisers records are sent directly to the National Organiser Peter Harvey, 32 Lodge Lane, Grays, Essex RM16 2YP
email: grays@peterharvey.freemove.co.uk

The scheme has the following objectives:

1. To define the geographical distribution at 10×10 km resolution of each species of spider found in Britain (currently approx. 650 species) across Britain and the Channel Islands, recording distribution information at 1×1 km or even 10×10 m where possible.
2. To provide opportunities to extend our knowledge of the biology of spiders, with special consideration of their habitats, seasonal occurrence and population dynamics, e.g. by recording distributions afresh on a regular basis so as to track changing distributions over time, and collect and collate records with full dates, numbers of males and females and habitat details to allow increased understanding of the adult activity periods and life-cycles of British spiders.
3. To establish a profile of the ecological characteristics of each British spider species.

4. To establish a data bank which will form a base line against which future ecological work can be compared, and provide quantified information on spider ecology which will aid future research and stimulate new studies.
5. To identify the 'hot-spots' of biodiversity of spiders in the British landscape.
6. To identify those habitats where species richness and/or presence of notable species makes them of special conservation interest, and how well these are represented in protected areas.
7. To record the spider fauna of selected sites of particular concern to nature conservation, and other areas whose habitat potential might be threatened. From time to time the Scheme and the British Arachnological Society organise surveys of specific sites.
8. To lead in the assessment of species' rarity and conservation status for spiders in Britain.

No membership fees or subscriptions are involved but occasionally the cost of posting specimens for verification may have to be met.

Newsletter

The Spider Recording Scheme Newsletter is issued three times a year (March, July and November) and contains articles and notes, submitted by recorders on all aspects of the recording of spiders, as well as regular updates on the progress being made in the recording scheme. From November 2002 the newsletter has been incorporated with that of the British Arachnological Society as SRS News, but is available separately to recorders who are not members of the Society.

The provisional atlas

One of the main aims of the recording scheme is to provide up to date data on the distribution of spiders in Britain. In the first fourteen years of recording (1987-2000) over 1500 volunteers have contributed more than 517,000 records. Overall coverage is good, although not surprisingly it is patchy in some areas with a number of counties intensively recorded, whilst other areas remain more poorly covered.

Provisional maps with species accounts and phenology charts were published in 2002 (Harvey *et al.*). The two volumes are available from CEH Publications, Monks Wood, Abbots Ripton, Huntingdon, Cambridgeshire PE17 2LS at £20 incl. p&p.

The provisional atlas provides a very great amount of new information on every British species. The 647 species accounts have been written by volunteer authors, without which the text could not have been produced in the timescale available. The draft text and maps were available to arachnologists on the NBN Gateway and have been subject to the expert guidance of Dr Peter Merrett. The large amount of feedback has helped to improve the accuracy and usefulness of the atlas. Checklists for many European countries were consulted and most accounts contain a summary of the distribution in western and central Europe, based on the information available.

Maps and distribution patterns

It is comforting to see how well the distribution maps for various common spiders illustrate the success of the first phase of the recording scheme. Species such as the comb-footed spider *Robertus lividus*, the money spiders *Lepthyphantes tenuis* and *L. zimmermanni*, the garden spider *Araneus diadematus*, the wolf spider *Pardosa pullata* and the crab spider *Xysticus cristatus* are all widespread

across Britain. What is surprising is the distribution of some other species previously described as common and widespread or widely distributed throughout Britain. The nursery-web spider *Pisaura mirabilis*, the wolf spider *Pardosa prativaga* and the jumping spider *Euophrys frontalis* are species which the maps show are widespread only in the southern half of Britain but which become extremely scarce further north. The maps for the colourful crab spider *Misumena vatia* and the orb-web spider *Araneus triguttatus* show a very pronounced southern and south-eastern distribution respectively.

Many spiders are associated with higher altitudes and northern latitudes. Good examples include the money spiders *Hilaira pervicax*, *Meioneta nigripes* and *Scotinotylus evansi*. Some have western and northern distributions and are absent or extremely scarce in the south-east, such as the dictynid spider *Cryphoea silvicola* and the agelenid spider *Tetrax denticulata*.

Other species show interesting patterns of distribution, some well known to arachnologists and some more surprising. The attractive little jumping spider *Talavera petrensis* is a rare southern heathland species which also occurs under stones on mountains in a few widely scattered localities in the north. Another rare species, the cryptically coloured crab spider *Philodromus margaritatus*, occurs on trunks of trees, especially where these are covered with lichens. It also has a disjunct distribution, occurring in scattered localities in the south of England and central Scotland. A number of species such as the orb-web spiders *Mangora acalypha* and *Zilla diodia* show an interesting distribution stretching in a band across southeastern and central southern England, and then reappearing in the Severn Vale. One spider *Nigma walckenaeri* has long been known from the Thames valley and London area but has more recently been discovered in Gloucestershire and Warwickshire. There are similarities here with the distribution of several more species of spider and some other invertebrates such as the ant *Lasius brunneus* (Alexander & Taylor, 1997); it should be noted that the Thames and Severn Valleys have certain climatic similarities which include average daily maximum and minimum temperatures in January and July (figures in *The Climate of England, some facts and figures*, The Met Office 1996).

The maps frequently present more questions than answers, but this is the nature of invertebrate recording and one that makes the results all the more exciting. Whilst there is much to do to fill in gaps and record counties more thoroughly, we already have enough information to act as a baseline for detecting future changes in spider distribution and to stimulate more research into their ecological requirements, habitat management and phenology.

Male/female phenology data

Phase one of the recording scheme did not set out to record male and female data, and therefore the dataset provided to the scheme on record cards and in digital form does not provide information on whether records were of males, females, subadults and juveniles (very few spider species can be reliably identified in their juvenile state) or of the numbers collected. However at a late stage, when working through draft accounts, it became apparent to the National Organiser that published information on the adult season of species was not always supported by his own data and the data of the Essex Spider Group. Male/female data were subsequently provided at very short notice by Martin Askins, John Crocker, Francis Farr-Cox, Richard Gallon, Paul Lee, John Murphy, Robert Merriott, Jennifer Newton and John Partridge to considerably improve the comprehensiveness of available date data, so that a total of over 130,000 records became available covering many areas in the country. All these data were worked into a usable form and graphed with the help of Martin Askins. The results have been used to inform the phenology in the majority of the species accounts and to provide summary charts for most species. An example is the wolf spider *Trochosa ruricola*, usually described as mature 'all year' or 'throughout the year, especially in autumn and spring' whereas our data show a strong peak from spring through to mid-summer.

Where from here?

Adult season data on the basis of latitude and longitude

The fruits of the fourteen-year old recording scheme are clearly provisional. The phenology data incorporated at a late stage into the recording scheme are potentially even more interesting when looked at on the basis of their latitude and longitude in Britain (using the 100km OS grid for northings and eastings). The limited data available indicate that, for a number of species, the maturity period changes from south to north and east to west, and the collection of wider ranging and comprehensive data would be a valuable advance for the next phase of the recording scheme.

Spiders and management for invertebrates

Arachnids, insects and other invertebrate groups play a vital role in ecological systems and the importance of invertebrates is increasingly being recognised in nature conservation and management. The complex structural mosaic of a habitat and its diversity are very important to many invertebrates. Spiders are no exception, although their general lack of prey specialism means that floral and faunal diversity is unlikely to be as important as the structural spaces presented by the ground topography and vegetation, affecting features such as microclimate and web construction. These are the very factors likely to be most influenced by different management regimes, and spiders should therefore be valuable indicators on the success or otherwise of such management and the health of the countryside.

Patterns of change

The recording of spiders on a detailed national basis is at too early a stage to monitor changes in the populations of species, although changes have undoubtedly occurred at an alarming rate especially in southern England, where modern agriculture and other developments have taken an enormous toll on wildlife habitats and their associated flora and fauna. However, a few species have clearly increased their distribution, including *Argiope bruennichi*, a spider expanding its range in southern England as a result of climate change, in particular longer milder autumns.

The crab spider *Philodromus praedatus* is a species with an interesting history in Britain. The spider is typically found on mature oak trees in open situations, in wood pasture, at the edge of woodland rides or in old hedgerows, but it is also sometimes found on other trees such as Field Maple. Although males are easy enough to distinguish from other members of the *aureolus* group, females are difficult without dissection and reference to reliably identified specimens. It was first recorded from Dorset in the nineteenth century by Pickard-Cambridge (1879). In 1974 the species was still only known from old specimens taken at Bloxworth (Dorset), New Forest (Hampshire) and Shrewsbury (Shropshire). However, by the time Dr Peter Merrett published his review of nationally notable spiders in 1990 the spider had been recorded in ten counties mainly in southern England but also Inverness-shire, and the spider is now known from 25 counties. This remarkable change does not seem to be due to any increase in range or abundance, but rather the result of the recognition of good characters for its separation from other closely related species and a clarification of its ecological preferences.

New species to Britain continue to be discovered, such as *Megalephyphantes collinus occidentalis*? from Sheppey and *Wabasso quaestio replicatus* from the Insh Marshes in 1999, *Neriene emphana* from the Isle of Wight in 2000, *Macaroeris nidicolens* from Mile End in East London in 2002 and one species, a six or eight eyed oonopid belonging to *Orchestina* or a closely related and possibly new genus, is still only known from six specimens collected by Ray Ruffell north of Colchester between 1992 and 1994. The rate of discovery since the early 1950s has remained almost constant at an average of about 1.5 species per year (Merrett & Murphy, 2000).

SPIDER RECORDING SCHEME phase 2

The priorities of phase 2 of the recording scheme are to establish a better and more comprehensive system to obtain the data we need for a better understanding of the ecology, phenology and effects of different management on spiders.

Please don't be put off by what may seem like an undue demand for detail. In practice the minimum acceptable record to the scheme would comprise date, locality, 4-figure grid reference, collector and identifier, with preferably information on habitat. On the other hand, remember that information not submitted is effectively lost and cannot help improve our understanding.

The qualifications needed to become a Recorder in the SRS are:

1. To be able to identify spiders to species level with a high degree of competence. Like many invertebrate groups, many spiders are difficult to identify correctly without experience. Beginners will need to have their identifications verified, and rarer or taxonomically difficult species should be checked even when recorded by experienced arachnologists. Area Organisers and the National Organiser are available to advise on identification problems. [Note that special courses are arranged by the British Arachnological Society, and by the Field Studies Council, for those wishing to learn how to identify spiders. These courses are either for a day, a weekend, or a whole week and are held at various field centres throughout Great Britain].
2. The ability and opportunity to undertake fieldwork that will provide records for the database.
3. To complete record cards, provided free of charge by the Biological Records Centre, or to submit data computerised in the agreed format.
4. A newly registered Recorder is supplied with detailed literature on how to complete record cards or submit computerised data. Record cards and computerised data are then sent to the local Area Organiser who is responsible for the vice-county in which the collection is made. In the absence of an Area Organiser record cards should be sent directly to the National Organiser and computerised data to Stan Dobson.

Other factors that have to be considered are:

- a). **Proper identification of spiders** relies on the use of a microscope (preferably a stereo instrument), a powerful top light, and reliable reference texts. Many of the species on the British list are very small, just a few millimetres in length. Also, identification of nearly all spiders requires careful examination of tiny morphological features. A standard reference text on British spiders is required - *The Spiders of Great Britain and Ireland*, 3 volumes, by M. Roberts; *British Spiders*, 3 volumes, by Locket and Millidge and Locket, Millidge and Merrett. These items are all rather expensive. A cheaper alternative is the **Collins Field Guide Spiders of Britain & Northern Europe** by Michael J. Roberts, but this does not cover all the species. Some experience of using a microscope and dichotomous keys is essential. A determination key to family, genera and species of Central European spiders available at www.araneae.unibe.ch may be of additional use, but of course includes a great many spiders not recorded in Britain.

- b). **Special attention** should be paid to those species that are rare or uncommon. Full details of date, site, habitat and status should be noted, and specimen(s) should be sent to the appropriate Area Organiser for verification. They in turn may seek further help from other experts before returning the specimens to the Recorder. The Spider Rarity Card (GEN14) should be used for rare species. This is helpful even if data are being submitted in computerised format.

c). **Verification and voucher specimens**

Recorders should normally retain all specimens. This enables valuable information to be obtained when, for example, it is realised that what had been regarded as a single species is, in fact, composed of two or more species (e.g. as with *Enoplognatha ovata/latimana*, *Meioneta saxatilis/mossica*, *Walckenaeria antica/alticeps*). A collection should be organised along the lines recommended by John Cooke in the *Bulletin of the British Spider Study Group*, **32**: 1-3. Voucher specimens are needed to ensure that no errors are made in identifying the species. This problem tends to be greater for the rarer species because collectors/recorders do not have many specimens with which to make comparisons. In almost all cases, specimens can be collected without making any significant difference to the population: collecting has a minute impact compared with natural mortalities and the loss of habitat to unsympathetic management, modern agricultural practices and various land developments.

However, rarer species should be collected with restraint and *Dolomedes plantarius* and *Eresus sandaliatus* are protected under schedule 5 of the Wildlife and Countryside Act, and may not be collected without a licence from the Joint Nature Conservation Committee. For these species, and perhaps for a few others where collecting may be feared to endanger the population, corroboration of the record in the form of a good quality photograph with detailed notes would be welcome. If possible, note enough detail to enable the site to be located again so that, if necessary, a visit by an experienced arachnologist could be arranged.

In the early stages of involvement in the Scheme a Recorder may be asked to supply named specimens, in support of their records of some of the “common” and “frequent” species, until such time as their competence has been established by the Area Organiser. Rare species or species outside their known range should in any case be checked by another competent arachnologist.

If it is necessary to send a specimen to an Area Organiser for checking please remember that damage can be caused if it is incorrectly packaged for posting. The following guidelines should be adhered to:

- i). Place the specimen in a small tube with a well-fitting plastic stopper or screw top. Either fill the tube completely with liquid (to prevent mechanical damage by air bubbles during transit) or restrain movement of the specimen using a small piece of tissue such as part of a paper hankie or kitchen paper. Cotton wool should not be used for this purpose, as the cotton strands become entangled with the spider.
- ii). Write clearly in pencil or **alcohol-proof and waterproof** ink (e.g. “Rotring” or Pilot water resistant drawing pen) on a label that is placed inside the tube with the specimen. Do not label the outside of the tube. If the tube leaks such labels are often rendered illegible, or, if the label is lost, the material becomes worthless. All tubes should contain a label containing the minimum information of location, grid reference, date, collector.
- iii). Indicate if the liquid in the tube is other than 70% alcohol. Avoid the use of glycerine which can stick trichobothria to the surface of the legs, making them very difficult to

locate. If iso-propyl alcohol is used rather than Industrial Methylated Spirits, then 50-60% dilution is recommended to avoid the specimens becoming brittle.

- iv). The tube containing the specimen should be protected by using a hollowed-out block of polystyrene, a tin lined with cotton wool or paper padding, or plenty of bubble wrap inside a box or padded envelope.
 - v). Remember that a covering letter written in ink or ball-point may be rendered illegible if the tube leaks during transit.
 - vi). If specimens are to be returned then stamps to the appropriate value should be enclosed.
- d). Spiders are collected into, and then stored, in 70% alcohol (Industrial Methylated Spirits) in which they do not decompose. They are examined using the microscope whilst immersed in alcohol. They are then static for the close inspection that is needed and the identification can be checked at a later date if necessary. **Very few species can be identified with confidence by simply observing them in the field or from photographs.**
- The value of building and maintaining a personal reference collection of correctly identified species cannot be overemphasized. With such a reference collection, direct comparisons can be made, especially important for critical and difficult species.
- e). Membership of the Spider Recording Scheme is unlikely to be suitable for young children – on the other hand the British Arachnological Society aims to encourage and help youngsters with an interest in spiders – contact S.H. Hexter, Membership Secretary, 71 Havant Road, London E17 3JE or the BAS website at www.britishspiders.org.uk.

Area Organisers

Area Organisers (AOs) are arachnologists who have undertaken to collate and help verify spider data for their areas (usually counties and vice counties). They are usually able to provide valuable assistance to beginners and may run field meetings to help record spiders in their areas. Please approach them for help but remember they do their work on an entirely voluntary basis, and can only do as much as time allows. Records and record cards should normally be passed through the relevant AO. An up-to-date list of these is occasionally published in the SRS Newsletter, and will also be available on the members section of the BAS website as part of the BAS Handbook.

Basically, an AO acts as a co-ordinator for spider records in an area. An AO needs to be able to build up a picture of the spider fauna of their area or county and recognise when identifications are likely to need checking or confirmation. They therefore either need to be able to confirm species identification themselves, or be able to send specimens to someone who can – such as the National Organiser or our ultimate authority, Peter Merrett! The essential quality is to know your limitations and ask for doubtful or difficult specimens to be confirmed – unreliable data are worse than no data!

Another role of the AO is to try and stimulate interest in the county or area and get other people working on spider recording. Even a few people can make a real difference - in Essex there has been a core of just 4 people since 1986. One of the aims of the Spider Recording Scheme is to try and obtain better coverage of Britain, and an AO should be encouraging this within their area or county. It is therefore important for AOs to provide local arachnologists with feedback so that they can see the results of their labours.

The National Organiser's idea of the role of an 'ideal' AO is as follows:

- to collate all county records and generate feedback for all their local active recorders by keeping them up-to-date with the current status of species in the county;
- to produce draft working county distribution maps for all the species in order to help people see where the gaps are and look for possible distribution patterns;
- to verify and validate records for the county, recognising the local significance of records and sending specimens to national experts whenever necessary – it is not essential that County Recorders are themselves 'experts' but should be able to refer material to national referees prepared to provide an opinion reasonably quickly;
- to maintain a database of county records, preferably on computer and in a form which allows ready exchange of data;
- to pass data on to the SRS, check nationally produced maps and liaise with Local Record Centres to enable an exchange of verified data which can enter a national database managed by the national recording scheme.

Special sites

When a Recorder visits a site having a special status, such as a National Nature Reserve, Local Nature Reserve, County Wildlife Trust Reserve, Site of Special Scientific Interest, or any site thought to be of particular value for nature conservation, the status of the site should be accurately recorded. Recorders are particularly encouraged to visit such sites, having first obtained the necessary permission to collect and record on the site. The future protection and suitable management of such areas will, in the long term, be helped by the accumulation of high-quality biological data such as that generated by the Spider Recording Scheme.

Unless data are being provided in computerised format, recorders are asked to submit separate cards for each date, each habitat and each major compartment within these important sites or to submit data using a 'keysite card', an example of which is available for download at www.britishspiders.org.uk/srs/srs.html.

Historical records

Records made in the past are of importance to the Spider Recording Scheme, in addition to those that arise from current fieldwork. They provide a context in which to view modern records, and a base-line against which to judge changes in the status of species. New Recorders are asked to commit their existing records to cards, giving precise information regarding date, site, grid reference, habitat and any other available data, or to submit the data in computerised form. Area Organisers may occasionally ask to see specimens in order to authenticate early records.

With published records, the date of the original field record should be given and the name of the original collector or Recorder if these are known. If not, the appropriate box should be marked "Anon". The bibliographic detail of the publication should be given, making clear when the date of publication differs from the date when the record was made. Similar information is required for collections of specimens in museums or those in private hands.

How should I send my records in?

Our preference is for people to computerise their own records using standard biological recording software, and send them in to the recording scheme in electronic format. The Spider Recording

Scheme needs to use a National Biodiversity Network (NBN) compliant system for managing the spider database such as Recorder 2002. However, it is not necessary that recorders use this package. There are plans to develop add-ons for Recorder and MapMate to ensure that our phase 2 data entry requirements are available to users of these packages. Stan Dobson is working on an updated Windows version of his SPIREC software to help recorders input data quickly and easily in the required format. Another possibility is an Excel spreadsheet set up with the necessary validations to allow recorders to input their records, which could then be forwarded to the scheme. Recorders will be kept informed on progress. More details on the format of computerised data are given further on in the section on **Submission of computer records**.

Records are also welcome on standard recording cards/forms:

- the revised 'field recording' form (RA65 v.2) for a list of species from a single locality;
- one of the single-species cards produced by the Biological Records Centre (BRC), ideally the GEN13.

The new RA65 card v.2

The new A4 recording form replaces the double-sided A5 record card (the old RA65), which was first printed in 1987. The new card includes completely updated species nomenclature, and lists the genera in taxonomic sequence, species in alphabetical sequence. We would prefer recorders to switch to the new card, but it will not cause any problems, other than potentially valuable lost data, if records are still submitted on remaining stocks of the old card.

Printing

The intention with this recording form is that most recorders will print off or photocopy copies they need. To view and print the recording form, available on the SRS section of the BAS website at www.britishspiders.org.uk/srs/srs.html, you will need to have Adobe Acrobat Reader installed on your computer. This software is available as a free download from Adobe's web-site at www.adobe.com/products/acrobat/readstep.html. The form has been set up with margins of 1 cm on all four sides. Some printers may require wider margins than this, in which case check your printer options to see if it is possible to reduce the form to fit the page. If you are going to use the form as a recording card please print onto at least 150gsm paper using a laser or waterproof ink jet printer for durability. Anyone who would prefer to be sent copies from BRC, please ask.

Other record cards can be ordered on-line at www.brc.ac.uk/brcRecordCard.shtm, and are free. If ordering supplies please quote a Recorder Number (allocated by the National Organiser) and the type of card required. When a batch of cards has been accumulated send them to the appropriate Area Organisers or, in the absence of an Area Organiser, to the National Organiser.

It can be much more time-consuming to process paper records than those in any other format. Often this involves the records being transcribed onto standard recording cards. However, if, for example, you have records in a card index system and they are clearly laid out and legibly written, it should be possible to input them directly - please check with the National Organiser first.

Do I need to send in absolutely all my records?

We are interested in absolutely all spider records. If you have, say 200 records of *Araneus diadematus* from your back garden, we would be more than happy to receive all 200 records, with full dates and male/female information. That's because we are keen to build up information on the adult periods of British spiders. However, if you don't feel you have time to submit all those records, please submit one record for each year as a minimum. Likewise, if you record the same species from several different sites within a single 10-km square, we would expect the majority of recorders to submit records from each site.

Difficult species

A number of spider species are difficult to identify or separate from other closely similar species, and regularly cause problems. To have difficulties in the identification of these or other species is nothing to be ashamed about! Please get problem specimens checked by an expert, since the accuracy of identification of records submitted to the scheme is crucial to their value. We hope to produce a booklet providing guidance on difficult species.

Identification service

All recorders are welcome to submit specimens to the National Organiser for identification: Peter Harvey, 32 Lodge Lane, Grays, Essex RM16 2YP email: grays@peterharvey.freemove.co.uk. Batches of up to 20 specimens can be sent without advance warning, but please check first if sending more than that. Specimens must have locality and date data attached. If you think you know what species it is, no matter how tentatively, please add a determination label - it is really valuable to see where identification problems can arise. Finally, though you might get your specimens back pretty quickly, you might not - please be patient!

Misidentifications

There is an established process for correcting identification errors in the database. If you discover that you have submitted a record that was misidentified, please let the Area Organiser and National Organiser know and the necessary corrections will be made to the database.

What do I do if I think my records might already have been submitted?

Duplicate records are absolutely no problem. In the past, efforts have been made in biological recording to reduce duplicate records, but in the present day, computer memory is cheap enough that we need not worry. We would rather have your records twice (or more times) than not at all, so if in doubt, (re-)submit!

What happens to my records?

Firstly, we will check over all records and may ask for further information, or ask to see specimens to confirm exceptional records. Secondly, records will be computerised as necessary, and validated. The validation process involves running automated checks on dates and locality information, e.g. checking that the grid reference matches the vice-county. If any problems are found which cannot easily be solved, you may be contacted again to help resolve them.

Validated records are then added to the Spider Recording Scheme database, a copy of which is held at the Biological Records Centre (BRC), which provides a secure long-term computer archive for the records. BRC also provides archive storage of the record cards in fire-proof filing cabinets.

How does the SRS inter-relate with Local Records Centres and County Recorders?

Spider Recording Scheme Area Organisers very often also act as County Recorders for their local county. They are usually very good at collating and sometimes also computerising records, and then forwarding checked and validated cards and datasets to the national scheme. We would like to promote similar arrangements with any county recorders not part of the SRS, and with the many Local Records Centres (LRCs), where these are in place. In return, we can help by scrutinising local datasets and helping to check records.

If you have submitted records to a LRC or a county spider recorder who is not also an Area Organiser for the SRS, and you are wondering whether they have been forwarded on to the SRS, the answer is 'probably not!'. Please either submit your records directly to the National Organiser, or put them in touch with whoever holds your records locally.

Policy on use of records and access to records

Records entered into the Spider Recording Scheme database will be used, where appropriate, as follows:

- to improve understanding of the distributions, natural history and ecology of British spiders,
- to promote the study of spiders,
- to conserve spiders and their habitats.

It is intended that records will be made available to all with appropriate safeguards, including via the internet using the National Biodiversity Network's Gateway web-site: www.searchnbn.net.

However, the following exceptions apply:

- Information on the localities of species considered vulnerable to over-collecting will be released at the discretion of the scheme organiser,
- Information may not be released if there is considered to be a reasonable chance of one or more of the following occurring:

failure to give suitable credit or acknowledgement of the use of SRS data,

misinterpretation of SRS data in such a way as to harm the objectives of use stated above,

abuse of the SRS dataset in such a way as to glean personal information about the people contributing to the dataset,

unauthorised sale or distribution of SRS data.

Developers requiring data for environmental assessments will be expected to pay commercial rates for access to recording scheme data.

Submission of records

It is considered that consistency in recording is essential if the data are to be useful. This is, perhaps, especially important for the recording of habitat information. Now that we have a set of distribution maps we need a firm scientific basis for recording ecological data. Distribution maps are very useful but they cannot be fully explained without ecological knowledge. The only way to obtain this is for recorders to follow the same recording system. Please take the time to update your recording practice to follow the format of the new record cards and computer field structure. It will provide us with invaluable understanding of our spider fauna.

The checklist

The sequence and nomenclature of the recording form follow the checklist by Merrett & Murphy (2000) A revised check list of British spiders. *Bull. Br. arachnol. Soc.* **11** (9): 345-358. This is also available on the internet at the British Arachnological Society website at <http://www.britishspiders.org.uk/html/info.html>

If any recorders need some guidance with the new checklist, the National Organiser will be happy to help, and can post a copy of the checklist to anyone who does not have access to the original British Arachnological Society Bulletin or the internet.

GPS Grid references

Quite a few arachnologists have now started using hand-held GPS (Global Positioning System - satellite technology) to determine their location. The best you can do when using a 1:50,000 or 1:25,000 map is to read off a '6-figure' grid reference (e.g. TL201799) which refers to a 100 × 100 m square of the National Grid. In contrast, GPS units give 10-figure grid references, referring to a 1 × 1 m square. However, under normal use their accuracy is only to about plus or minus 10 m - the last digit of the northings and eastings is thus spurious. The new card allows for 8-figure grid references from GPS

users. To help prevent grid reference errors, reference should be made to *A Cautionary Note to GPS Users* by Stan Dobson in S.R.S. News No. 45. in *Newsl. Br. arachnol. Soc.* **96** (March 2003).

What grid reference should I give?

Please give the grid reference of the smallest grid square which encompasses the area you sampled. If all your sampling was done at a point (e.g. pitfall trapping) or within a very small area, please try to give a 6-figure grid reference (e.g. TL201799). If you wandered a little more widely but stayed within a single 1-km square (i.e., a 1×1 km grid square) please give the 4-figure grid reference: e.g., TL20-79- (often written as just TL2079). If you cover several adjacent 1-km squares, please try and keep separate lists for each square. As a last resort, submit the records for the 10-km square with a 2-figure grid reference, e.g. TL2—7— (or TL27). If you are recording near the boundary between two 10-km squares, it is essential to keep separate records for each square.

Please do not give ‘central grid references’, as have sometimes been used for nature reserves and other sites. These tend to be 6-figure grid references for a central point of the reserve, whereas the records submitted may come from anywhere within the reserve, and not necessarily even within the same 10-km square as the central grid reference. Unfortunately, however, lists of old records for a site that cannot be checked in any more detail can only be recorded in this way, or by choosing at random one of the 10km squares covered by a large site. In these cases, record central grid references by including ‘centroid’ in the locality name as in the following example, ‘Abernethy RSPB Reserve [centroid]’ with a 6-figure central grid reference.

Vice-counties

The system of vice-counties was decided upon by H.C. Watson in 1852, who divided Britain into units of roughly equal area for botanical recording purposes. His system was later extended to Ireland by Praeger. Vice-counties have been widely adopted by naturalists in preference to the ever-changing administrative counties: vice-county boundaries will not move!

It is very useful to include the vice-county (VC) as well as the grid reference with each record. It becomes possible to check that grid references are not wildly inaccurate, and to sort records into counties, for use by county recorders and local records centres. So, whenever possible, please enter both the VC and the grid reference on your records.

VC maps may be viewed on-line at <http://www.brc.ac.uk/brcMaps.shtm>, and the same web-page also gives details of how to obtain a free paper copy of the Ray Society VC maps (scale 1/625,000) from BRC. A small-scale map is provided to members of the British Arachnological Society in the Members Handbook.

SUBMISSION OF COMPUTER RECORDS

Stan Dobson is working on a Windows version of his SPIREC software which should allow quick and easy data entry into a variety of database software. Mark Yeates is developing an add-on to MapMate to allow data entry in accordance with our requests for phase 2 of the recording scheme. We are hoping that Recorder 2002 will be able to provide a phase 2 compatible data entry system. It may also be possible in the future to make available an Excel spreadsheet on the BAS/SRS website that accommodates the data entry and validation facilities required for NBN compliant data entry. Details on developments will be provided in the SRS newsletters.

Otherwise it will be necessary to follow the database field format outlined later in order to submit data to the scheme. In the case of problems, please contact the National Organiser or Stan Dobson, Moor Edge, Birch Vale, High Peak, Derbyshire, SK22 1BX email stand@beeb.net.

Stan has agreed to act as a clearing house and all computerised data should be sent to him for checking, and possible modification, before loading into the national dataset.

It is necessary for all records to be in a standard format that has been agreed with the Biological Records Centre and is set out below. Ideally, all records sent to him should be in this form, but it is appreciated that some people may have difficulties in producing this on their own system and consequently Stan is prepared, within reason, to modify what is sent to him if necessary.

At the end of this section there are some explanatory notes for the benefit of those who have not had much experience in manipulating data. Stan is well aware that some of you know far more about this topic than he does, and most will know more about particular databases and spreadsheets. However, having discussed the topic with several people, he feels that a little help might be appreciated both with reading these notes and with coping with the user's manual of your particular system. For general help and advice, Craig Slawson (Tel: 01782.615658; e-mail craig@salticus.demon.co.uk), who has wide experience of computer systems, would be willing to talk to you and may have spare copies of his pamphlet "The Use of Computers in Biological Recording".

General comments.

Please make it very clear whether you are submitting data with the **new phase 2 field structure**, or are still working to the **old RA65 habitats, etc.**

Any records of rare species which are sent in on GEN14 cards should also be included with the electronic data to minimise card entry.

Please ensure that there are no double quotes anywhere in the data fields. This is most important as they prevent correct operation of the checking program.

Experience has shown that very few files submitted require no modification, but please remember that the time you save by not formatting your records correctly, means extra time wasted for Stan.

If there are any queries or if you require more help in producing your record file, please give Stan a ring on 01663 743551 or e-mail him at stand@beeb.net.

The input of electronic data for the provisional atlas has now been completed, but records should still be submitted so that the national dataset can be kept updated.

Validation.

Two forms of validation are required; syntax checking and record checking. With one exception, Stan only carries out the former to ensure that records can be read correctly for submission to the national dataset. Record checking will be done on a periodic basis by a subcommittee of expert members of the British Arachnological Society, who may need to examine voucher specimens for unusual or rare species.

1. File Format.

Originally, a strict naming convention for files was specified. This has been found to be unnecessary and many people didn't follow it anyway, so it can be abandoned. However, please make sure that your file names identify you, as occasionally details have to be checked later and it isn't so easy when more than one file is called something like 'spiders.csv'! Incorporate your name, initials or recorder number and, if you send more than one file, please don't use the same file name.

Data can be sent by e-mail (preferably) or as PC compatible files and can be on 3.5" floppy discs, 100Mb Zip discs or CDs. Large files sent by e-mail should be compressed to save downloading time.

The file can be in csv (comma-separated variable) form as plain text, or as an Excel or Access file. Other data formats may be acceptable; please contact Stan for further information.

Field names in a header row are acceptable.

If records arrive which do not conform to the preferred specification, they can be modified provided that they contain no fields other than those specified. The date can be sent as a single field if it is not possible to separate it into day, month and year. If your files require modification, would you please specify the format as sent, either with an attached note or in a text file on the disc. It would also be helpful if you could indicate the nature of the modifications required. Here are some of the possibilities:

- re-order the fields.
- add missing fields.
- convert species or vice-county names to numbers.
- change source ("Field" etc.) to number.
- convert heights in feet to metres.
- separate dates into day, month and year.
- re-format the grid reference.

If you are confident that a compressed file will require no modification, it can fill the entire disc; otherwise make sure that it fills less than half the disc because the original will be sent to the national dataset together with the modified version. Normal files can be compressed after checking if they are too large.

2. The Fields.

Each record should contain the fields listed below, preferably in that order. Please be careful here, **since it saves a lot of time and bother later on if your data are in the correct format**. The fields are all based on those that occur on the new RA65 card. It is essential that all fields are included, even if empty, to enable correct importation into the national dataset. It is much simpler and avoids the possibility of transfer errors if all fields are TEXT fields. The only exception is male and female numbers, and even here the fields may be text fields without any problem.

Required fields:

Source	The digit '1', '2', '3' or '4' meaning 'Field', 'Museum', 'Literature' or 'Local Records Centre or similar' respectively. Details of the Museum, Literature source or Local Records Centre should be given in the comments field.
Locality	60 characters maximum. The locality should include at least one name which appears on the relevant Ordnance Survey 1:50,000 (Landranger) map.
VC No.	Note that the Channel Islands number is 113 and not 0 which appears in some lists. Occasionally the VC number is indeterminate. In such cases use 0 and if there is a VC name field, leave it blank.
Grid Reference	2 letters and 6 or 8 digits. Use '-' for empty digits. With modern satellite grid referencing, 8 figure grid references have become realistic and can be provided.

Site description	Describe the nature of the site and whether it is of special status such as NNR, LNR, SSSI, County Trust Reserve, National Trust Property, Forestry Commission Property etc. Additional information on habitat, site history, management etc. should be added here. This often adds important information to that already coded under habitat, etc.
Collector	Use names for casual collectors/recorders, otherwise SRS number (if known).
Determiner	Use names for non-SRS Recorder (eg records from the literature), otherwise SRS number (if known). If there are many names in the collector and determiner fields, it would help a lot if they are entered surname first . Numbers have to be allocated to these names, and it is very much quicker changing them if the surnames come first.
Compiler	Your SRS number (given to you when you join the recording scheme).
Day	2-digit.
Month	2-digit.
Year	4-digit. Please do not give dates of maturity in captivity here, but give these in the notes field. Maturity dates in captivity can be very misleading, and not at all like those in the field. A second set of date fields can be included if dates are available for records resulting from trapping work. Please do not use a second date field to give date ranges such as 1985 - 2003, or similar.
Dateclass	This field has been introduced for use when the date is known only approximately. Please insert this immediately after the Year field and enter a single character '+', '-', 'C' or 'P' meaning 'after', 'before', 'about' (use average date for a range) or 'published in' (undated, literature record) respectively. Leave blank for known dates.
Altitude	In metres.
BRC Species No.	This is the number as it appears on the RA65 card. Omit the prefix 6708.
BRC Species Name.	The name as it appears on the RA65 card. In order to eliminate typing errors the name will be checked against the number.
Adult male nos.	Data are now being requested for statistical work on the seasonal appearance of the sexes and juveniles. If possible, please include three separate fields for adult males, adult females and juveniles giving either the number seen or collected. Only record juveniles if you can be absolutely certain they belong to the species in question. This applies to very few species.
Adult female nos.	
Juvenile nos.	

If this is not possible, use a single field with an indication such as '1m; 2f'. If egg sacs are seen with females, it would be a good idea to note this in the notes field.

Voucher status	<p>V - voucher specimen available. It must be realised that records not supported by voucher specimens may have to be excluded from the recording scheme.</p> <p>N - noted but no specimen collected (for distinctive species such as <i>Pisaura</i>).</p> <p>M - identified under a microscope, but specimen not retained (or lost).</p> <p>W - web (for distinctive webs such as <i>Atypus</i> or <i>Pisaura</i> where the spiders are not seen),</p> <p>O - ova (to indicate distinctive egg sacs such as <i>Paidiscura pallens</i>).</p>
Habitat	1 or 2-digit number which appears on the new RA65 card. There is some overlap of habitats to allow for compatibility with the old RA65 categories. If you are not sure about the type of wetland or grassland choose wetland, other or grassland, other.
Subhabitat	1-digit number which appears on new RA65 card. Please note scrub and gorse appear here as subhabitats of main habitat types. Use these unless the scrub is an extensive habitat not obviously related to a broad habitat type.
Habitat structure	1-digit number which appears on new RA65 card. This is an important addition to phase 2 recording and its submission should help quantify the ecological associations of species with structure and date. Field layer would be roughly equivalent to sweeping, and ground layer to 'grubbing' at plant roots.
Habitat qualifiers	<p>These are also an important addition to phase 2 of the recording scheme. The more data of this kind we receive the more likely we are to be able to describe accurately the detailed ecological preferences of each of our British spiders.</p> <p>These should be given as four separate fields, or as one 4 digit number, using zeros for no submitted data e.g. 0021 would equal no qualifier 1, no qualifier 2, sand, dry; 2242 would equal sparse vegetation, under stones, debris, peat, wet.</p>
Habitat qualifier 1	1-digit number which appears on new RA65 card.
Habitat qualifier 2	1-digit number which appears on new RA65 card.
Habitat qualifier 3	1-digit number which appears on new RA65 card.
Habitat qualifier 4	1-digit number which appears on new RA65 card.

Management and qualifiers	Data on habitat management and its effect on the resultant spider fauna could prove extremely valuable in the conservation of spiders of conservation interest. These sections should be completed if the relevant management features are evident, or known. Otherwise leave blank.
Collecting methods	1-digit number which appears on the new RA65 card.
Notes	60 characters maximum.

3. Explanation of terms used.

Strictly speaking, a database is a set of data, the dataset, and the software to manipulate it. The term is often used loosely to refer to either of these.

A spreadsheet is a special form of database which handles and displays data in tabular form with special provision for performing calculations on numerical items. It is often used as a simple data storage medium.

A character may be a printing character (also referred to as an alphanumeric character because both letters and numbers are included) which is basically what appears when a typewriter key (including space) is pressed, or a “non-printing character” which is produced when a key is pressed but which has no obvious output (for example, the “escape” key, Esc). In a computer, these are encoded into a sequence of binary digits, the most widely used code being ASCII (“American Standard Code for Information Interchange”).

A string, in this context a “character string”, is a sequence of characters in order.

A record is a unit of storage in a database which contains all the information pertaining to a particular event or occurrence. Each item of information is held in a field which may hold a string, a number, or some other specialised form such as a date. (Note that there is a subtle difference between a number and the string of digits representing that number. For instance a list of numbers would be right-justified, but a list of the equivalent strings would be left-justified. If the lists were sorted in, say, ascending order, then 11 would precede 100 in the number list as you would expect, but it would be reversed in the string list).

Once data are entered into a database in the form of records, these records may be exported to another database, which then imports them. One of the most straightforward ways of doing this is for the source database to write the data into a file, from which the target database reads them. If the file can be read by a simple text editor, it is an ASCII file or text file.

The records and fields within the records need separators to distinguish one from the next. The most common record separator is a new line. Several field separators are commonly recognised: this can be any character and the comma is frequently used, in which case the field is a “comma-separated variable” or “csv” field.

In order to prevent confusion between the chosen separator and the same character within a string in a field (and the resultant incorrect separation into fields), **the separator must be a character which will never be encountered otherwise**, for example the tab character, or strings are enclosed (encapsulated) in double quotes. This means that double quotes or commas must NOT be used within strings. The encapsulating character and the field and record separators are often referred to as delimiters. Records presented in this way are in delimited text form.

With most modern databases and spreadsheets, it is a straightforward procedure to export data into a text file and select the delimiters mentioned above.

File compression is a technique which reduces the size of files by procedures such as removing redundant characters. The output from a database in text form will contain many spaces which serve no useful purpose; removing these may reduce the file size by as much as fifteen to one. The compression procedures and the converse, decompression, are sometimes loosely referred to as zipping and unzipping. PKZIP and WINZIP are widely used programs to do this.

SPIDER RECORD CARDS

Although phase 2 of the recording scheme encourages the submission of computerised data, records on cards will always be welcome. Page 9 explains how to obtain cards.

SPIDER RECORD CARD - RA65 v.2

This is the main card for use when a number of species have been recorded at one locality on one date. Consistency in recording is essential if the data are to be useful. This is, perhaps, especially important for the recording of habitat information. Now that we have a set of distribution maps, we need a firm scientific basis for recording ecological data. Distribution maps are very useful but they cannot be explained fully without ecological knowledge and the only way to obtain this is for recorders to follow the same recording system. Please take the time to update your recording practice to follow the format of the new record cards. It will be essential to bring about a greater understanding of our spider fauna.

The nomenclature and sequence of species on the old RA65 card was based on the 1985 Check List (published in *Bull. Br. arachnol. Soc.*, **6** (9), 381-403). There have been changes in nomenclature since 1985, especially in terms of family order, and the new RA65 card follows the checklist published in 2000 (*Bull. Br. arachnol. Soc.*, **11** (9), 345-358). Please contact the National Organiser if confusions arise.

Please complete the card **clearly** using pencil or alcohol, water and light proof black ink (not too fine and not too thick). Use capitals to help make sure your writing is easily readable. If you cross through a species by mistake, mark with a clear cross either side.

CATEGORIES

Locality:

This should include at least one name which appears on the relevant Ordnance Survey 1:50,000 (Landranger) map.

Vice-County Number and Vice-County Name:

Watsonian vice-counties provide a useful system of permanent divisions (not subject to administrative reorganisation) and give a good first check on the validity of a grid reference. Details can be obtained from either the local Area Organiser, BRC or the National Organiser.

Enter the vice-county number in the form :

Dorset - - 9
 Durham - 6 6
 Caithness 1 0 9

Any records submitted for Irish vice-county numbers should be prefixed 2 or 20 e.g.
 South Tipperary 2 0 7 Fermanagh 2 3 3

Grid Reference:

The grid reference should be made as detailed as possible. For the 100km squares, use letters as given on OS maps. Numbers are acceptable but require care in correct usage.

e.g. For Harewood, some 20 miles west of York:
 Harewood House Park is SE 3--4-- (or 44 3--4--)
 Harewood Fish Pond is SE 31-44- (or 44 31-44-)
 Harewood House is SE 312446 (or 44 312446)

With modern satellite grid referencing, 8 figure grid references are realistic, e.g.
 Harewood House SE 31224464 (or 44 31224464) and allowance is made for this on the card.

Site Description:

Describe the nature of the site and whether it is of special status such as NNR, LNR, SSSI, County Wildlife Trust Reserve, National Trust Property, Forestry Commission Property etc. Additional information on habitat, site history, management etc. should be added here. This often adds important information to that already coded under habitat, etc.

Date:

This is the date on which the specimen was seen or collected. May Day 1996 would be recorded as 01/05/1996. Christmas Day 1997 would be 25/12/1997. If the records indicated on the card have been accumulated over a period of time then fill in with whatever precision is possible, e.g. --/12/1996 or --/--/1996. **Please do not give dates of maturity in captivity** here, but give these in the notes field. Maturity dates in captivity can be very misleading, and may not be similar to those in the field.

Altitude:

Express in metres (shown on OS maps both as contours and spot heights).

Source:

Cross through the one category which applies.

Field: as indicated above.

Mus: Museum specimens include any collection, whether in a public museum or private hands. Give details under "Comments".

Lit: Literature includes lists that have been reliably published i.e. which could be traced by a competent librarian. Give details under "Comments".

LRC: Records sourced from a Local Records Centre. Give details under "Comments".

Unpublished manuscript lists, card indices, etc. should be treated as Field records: give as much information about the source as possible.

Collector:

Write the name clearly - don't use an illegible signature. If you cannot remember the Collector Number you were allocated, leave the space blank and it will be entered by the National Organiser. Do not use a number allocated by any other recording scheme on a spider card.

Determiner:

Many Collectors/Recorders will do their own identifications, but if another person has identified the specimens then their name should be entered, clearly, in this space.

Compiler:

This is the name of the person filling in the card, who will not necessarily be the originator of the records.

Collecting Methods:

Cross through the methods used to collect the species recorded on the card. Do not cross through the number of the technique.

Habitat, Other or sub-habitat, Habitat Structure and qualifiers:

This section is almost entirely for species/habitat type correlations by computer. Cross out one category only in each section – habitat type, other or sub-habitat, habitat structure, and each of the four qualifier sections. - We would like you to complete a separate card for each habitat combination, but if you cannot do this, **do not complete that habitat section**. If you are not sure about the type of wetland or grassland choose ‘wetland, other’ or ‘grassland, other’. Please note **scrub** and **gorse** appear in the main habitat category to maintain backward compatibility with the old RA65 card. Please use these as sub-habitats unless the scrub is an extensive habitat not obviously related to a broad habitat type.

Field layer would be roughly equivalent to sweeping, and ground layer to ‘grubbing’ at plant roots. If the habitat is unknown or specimens are from more than one habitat or habitat qualifier on a site, then do not complete that section. However remember that data not provided are lost data. If at all possible complete a separate RA65 for each habitat and habitat structure – this is the only way we can accumulate the data necessary to learn more about each species. As before, cross through the wording but not the number.

Evident management features and qualifiers 1 and 2:

This section should be completed if the relevant management features are evident, or known. Otherwise leave blank.

Data on habitat management and its effect on the resultant spider fauna could prove extremely valuable in the conservation of spiders.

Species recorded and numbers of males and females:

The presence of a species is recorded by crossing through its **name**, using black ink, black ball-point or black felt-tip pen. The number prefixing the species abbreviation **should not** be crossed through.

Numbers of adult males and females collected/recorded should be written in the adjacent boxes. This will provide valuable information that can be used to update and extend the existing phenology charts for the whole of Britain and provide additional information that might enable the monitoring of any changes due to climate. If this information is not available, leave these boxes blank. **Please do not give numbers of adult males and females here** for specimens which have matured in captivity.

On the old type RA65 card heavy type-face was used for the 143 “commoner” species, normal type-face for the 209 “frequently-recorded” species and normal type-face, prefixed by an asterisk (*), for 155 “uncommon” species. The distinction between the categories has been arbitrary and largely based on southern spider populations. In the new card, rare species are marked with an asterisk but it should be remembered that even widespread species can be rare and highly significant outside their normal range and that some common species can present difficulties in identification and may need checking by experts.

Voucher status:

V - voucher specimen available. It must be realised that records not supported by voucher specimens may have to be excluded from the recording scheme.

N - noted but no specimen collected.

M - identified under a microscope, but specimen not retained (or lost).

W - web (for distinctive webs such as *Agelena*, *Atypus* or *Pisaura* where the spiders are not seen).

O - ova (to indicate distinctive egg sacs such as *P. pallens*).

Notes, additional species etc:

Write the name(s) of any other species (not included in the printed species list on the card) that have been recorded. A voucher specimen of each of such species should be sent to the Area Organiser for confirmation (but see below), together with a separate Spider Rarity Card (GEN14) for each species filled-in as fully as possible. The Area Organiser may, in turn, send the specimen(s) to other experts for further examination. The specimen(s) will be returned to the collector as soon as possible.

SPIDER RECORD CARD - GEN14

A GEN14 card (the rare species card) should be completed whenever a species is recorded which is not listed on the RA65 or which is rare or scarce, either in Britain or the region in which it has been recorded. Some additional information is required and there is space on the card for a sketch map of the site showing the location of the species.

SPIDER RECORD CARD - GEN13

Although the RA65 is the preferred card for general recording, there is a single species card, the GEN13. This is of particular use for recording a single species from a variety of sites and at different times, such as a set of records from many sites in an area such as a county or vice-county.

Use of cards during fieldwork

Since completed cards will be used directly with a computer, and will then form part of the national biological archive, it is essential that they should not be creased, dog-eared or soiled. Recorders are therefore recommended to keep their field notes separately and transfer them onto record cards at home. When despatched to the Area or National Organiser, they should not be folded, fastened together with paper clips or held together with rubber bands unless protected by cardboard.

References

- Alexander, K.N.A & Taylor, A. (1997) The Severn Vale, a national stronghold for *Lasius brunneus* (Latreille) (Hymenoptera: Formicidae). *Br. J. Ent. Nat. Hist.* **10**: 217-219.
- Cambridge, O. Pickard- (1879) *The spiders of Dorset* **1**: 1-235. Sherborne.
- Harvey, P.R., Nellist, D.R. & Telfer, M.G. (eds) (2002) *Provisional atlas of British spiders (Arachnida, Araneae)*, Volumes 1 & 2. Biological Records Centre. Huntingdon.
- Jones, D. (1983) *The Country Life Guide to Spiders of Britain and Northern Europe*. Feltham: Country Life Books.
- Locket, G.H. & Millidge, A.F. (1951) *British Spiders*, Volume I. Ray Society. London.
- Locket, G.H. & Millidge, A.F. (1953) *British Spiders*. Volume II. Ray Society. London.
- Locket, G.H., Millidge, A.F. & Merrett, P. (1974) *British Spiders* Volume III. Ray Society. London.
- Merrett P. (1990) *A Review of the Nationally Notable Spiders of Great Britain*. NCC.
- Merrett, P. & Murphy, J.A. (2000) A revised check list of British spiders. *Bull. Br. arachnol. Soc.* **11** (9): 345-358.
- Roberts, M.J. (1985) *The Spiders of Great Britain and Ireland*. Vols. 1 & 3. Harley Books. Colchester.
- Roberts, M.J. (1987) *The Spiders of Great Britain and Ireland*. Vol. 2. Harley Books. Colchester.

Index

A

adult season data, latitude and longitude 4
alcohol 6
alcohol-proof and waterproof ink 6
altitude 15, 19
Area Organisers 1, 5, 7, 9, 10

B

Biological Records Centre 1
BRC Species Name 15
BRC Species No 15
BAS website 7, 9, 11, 18
British Spiders 5, 21

C

categories 19
central grid references 12
character 17
checklist 11
collecting methods 17, 20
collector 15, 17, 19
comma-separated variable 14
compiler 15, 20
compressed file 14
computerised format 1
county recorders 10

D

database 17
database field format 12
date 15, 19
dateclass 15
day 15
determiner 15, 17, 19
developers 11
difficult species 10
do I need to send in absolutely all my records 9
Dolomedes plantarius 6

E

ecology 5
Eresus sandaliatus 6
evident management features 20
Excel spreadsheet 12
explanation of terms used 17
export 17

F

female numbers 15, 20
fields 7, 14, 20
fieldwork 21
file compression 18
file format 13
field structure 13

G

GEN13 record card 9, 21
GEN14 record card 21
gorse 16, 20
GPS grid references 11
grid reference 12, 14, 19

H

habitat 16, 20
habitat, other or sub-habitat, habitat structure and
qualifiers 20
habitat qualifiers 16, 20
habitat structure 16, 20
historical records 8
history and objectives 1
how does the SRS inter-relate with Local Records
Centres 10
how should I send my records in? 8

I

identification 5
identification service 10
iso-propyl alcohol 6

J

juvenile numbers 15

L

literature 14, 20
Local Records Centre 10, 14, 20
locality 14, 18

M

male numbers 15, 20
male/female phenology data 3
management 5, 17
management features and qualifiers 16, 20
MapMate 9, 12
maps and distribution patterns 2
members section 7
method of recording 21
microscope 5, 21
minimum acceptable record 5
misidentifications 10
month 15
museum 14, 20

N

National Biodiversity Network 9, 10
national dataset 1
National Organiser 1, 10
NBN Gateway 10
new recording form 9
newsletter 2
noted, no specimen collected 21
notes, additional species 21
numbers of males and females 20

O

objectives 1
old RA65 13
ordering supplies 9
other factors that have to be considered 5
other or sub-habitat 20
ova 16, 21

P

patterns of change 4
phenology 5
photographs 7

policy on use of records and access to records 10
printing record cards 9
problem specimens 9
provisional atlas 2, 13

Q

qualifications needed to become a Recorder 5
qualifiers 20

R

RA65 record card 9, 18
rare species 6
record 17
record cards 5, 8, 9, 18, 21
Recorder 2002 9, 12
recorder number 9
required fields 14

S

scrub 16, 20
separators 17
site description 15, 19
source 14, 19
special sites 8
species recorded 20
species that are rare or uncommon 6
Spider Recording Scheme phase two 5
spiders and management for invertebrates 4
Spiders of Britain & Northern Europe 5, 21
SPIREC 9, 12
spreadsheet 17
string 17
subhabitat 16, 20
submission of computer records 8, 12
submission of records 11

T

text fields 14
The Spiders of Great Britain and Ireland 5, 21

U

update your recording practice 18

V

validation 13
valuable information 21
verification 6
vice-counties 12
vice-county name 18
vice-county number 14, 18
voucher specimens 6, 16, 21
voucher status 16, 21

W

web 16, 21
what do I do if I think my records might already
have been submitted? 10
what grid reference should I give? 11
what happens to my records? 10
where from here? 4
Wildlife and Countryside Act 6

Y

year 15

Contacts

National Organiser

Peter Harvey, 32 Lodge Lane, Grays, Essex RM16 2YP
email grays@peterharvey.freemove.co.uk

Computerised data

Stan Dobson, Moor Edge, Birch Vale, High Peak,
Derbyshire, SK22 1BX email stand@beeb.net

Area Organisers

Details available from the National Organiser or the
members section of the BAS website.

British Arachnological Society

Membership Secretary, S.H. Hexter, 71 Havant Road,
London E17 3JE

BAS website at www.britishspiders.org.uk

Notes

Recorder name _____

SRS Recorder Number _____

Additional species etc.